Resistance *oi* Germs to Pesticides

2123. SHRI SHAMIM HASHMI : Will the Minister of HEALTH AND FAMILY WELFARE be pleased to state whether any studies have been conducted in India or abroad which shows that the high resistance of vectors of disease germs to various pesticides now in use and if so, te details thereof and the corrective step taken/ proposed to be taken in this regard?

THE MINISTER OF STATE IIN THE MINISTRY OF HEALTH AND FAMILY WELFARE (KUMARI SAROJ KHAPARDE); Yes, Sir. The Vector Control Research Centre, Pondicherry and Malaria Research Centre have also carried out several studie* on insecticide resistance in malarta vectors particularly Anopheles stephensi and Anopheles culicifa-cies Mechanism of insecticide resistance is being investigated in laboratories of the Centre. Anopheles stephensi has become resistant to DDT and dieldrin in most parts of the country while resistance to other insecticides like malathion etc. is not so commonly encountered. It is a vector of urban malaria and in urban areas. A stephensi control is based on anti-larval methods where insecticides are not the main methods of control. Therefore, resistance has not interfered in any significant manner in the control of urban malaria. However the situation in regard to the control of A. culcifacies is rather complicated due to the evolution of resistance against tho common'y used insecticides. This vector has become resistant to DDT in almost all parts of the country, although the level of resistance varies greatly from place to placp but comhlpte control of vectors is not achievable. The vector has also become resistant to BHC in large parts of the country Therefore in areas with resistance in A. oulicifacies to DDT and BHC, malathion is being sprayed Unfortunately the vector has developed some deeree of resistance to malathion as well so that effective control of A. culicifacies is not obtainable in areas under malathion. spray. The vectors have innerent characteristics to become resistant to new insecticides and, therefore, judi cious use °f inseticides is recommend ed both for economic and scientific reasons.

There are a few reports of insecticides resistance in A fluviatilis another vector of malaria and in other vectorf species e.g. A. dirus A Minimus, A. sundaicus, A. nivipes insecticide resistance is not the problem. The strategy adopted *to* tackle the problem of insecticide resistance to DDT, BHC is used. In areas where th_e vector has become resistant to DDT and BHC, malathion is used. In areas with multiple resistance (i.e. to DDT, BHC and malathion) new-over insecticides like fenitrothion, na-led and certain Pyrethroids are being field tested. Malaria Research Centre of the Council has developed on the basis of pilot projects a strategy for bio-environments control of malaria.

Trials of pesticides

2124. SHRI SHAMIM HASHMI : Will the PRIME MINISTER be pleased to state:

(a) whether CSIR, ICMR and other ICAR Labbora^ories have conducted trials over last decade on occurrence of pesticides in food, water, milk, fish etc. and in environment and if so, the details thereof;

(b) whether these studies show occurrence of various pesticides in use for agriculture and health far in excess of pemisible limits and if so, the action taken to check the same; and

(c) whether the studies have been conducted in respect of all pesticides registered for use in India and if not, the reasons thereof?

THE MINTSTER OF STATE IN THE MINTSTRY OF SCIENCE AND TECHNOLOGY AND THE MINISTER OF STATE. TN THE DEPARTMENTS OF OCFAN DEVELOPMENT. ATOMIC ENERGV. ELECTRONICS AND SPACE (SHRl K. R. NARAYAN-